Best-in-Class Project Management Initiative

Corporate Implementation Plan

Final

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U.S. Department of Energy

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March 14, 2008

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Table of Contents

Appendices

List of Acronyms

AAB	Acquisition Advisory Board
ASI	Acquisition Solutions, Inc.
BICPM	"Best-in-Class" Project and Contract Management
BCP	Baseline Change Proposal
CBC	Consolidated Business Center
CCP	Change Control Process
CD	Critical Decision
CIP	Corporate Implementation Plan
CM	Contract Management
CMP	Contract Management Plan
COR	Contracting Officer's Representative
COTR	Contracting Officer Technical Representative
DAS	Deputy Assistant Secretary
D&D	Decontamination and Decommissioning
DOE	Department of Energy
DOE EM	Department of Energy, Office of Environmental Management
DOE EM CBC	Department of Energy, Office of Environmental Management, Consolidated Business Center
DOE CBC	Department of Energy Consolidated Business Center
DOE G	Department of Energy Guidance Document
EIR	External Independent Review
EM	Environmental Management
EM-1	Assistant Secretary in charge of U.S. Department of Energy's Office of Environmental Management
EVMS	Earned Value Management System
F	Field
FPD	Federal Project Director
FTE	Full Time Equivalent
FY	Fiscal Year
GFS/I	Government Furnished Services and Information
HQ	Headquarters
IGCE	Independent Government Cost Estimate
IPR	Independent Project Review
IPT	Integrated Project Team

List of Acronyms (Continued)

LCB	Life-Cycle Baseline
MII	Micro-Computer Aided Cost Estimating System Second Generation
Mgt	Management
NAPA	National Academy of Public Administration
NNSA	National Nuclear Security Administration
OBS	Organizational Breakdown Structure
OECM	Office of Engineering and Construction Management
OPER	Out-Year Planning Estimate Range
PBS	Project Baseline Summary
PEP	Project Execution Plan
PM	Project Management
PMI	Project Management Institute
PT&C	Project Time & Cost, Inc.
QPR	Quarterly Project Review
RAM	Responsibility Assignment Matrix
RCA	Root Cause Analysis
REA	Request for Equitable Adjustment
RLAAB	Richland Acquisition Advisory Board
RMP	Risk Management Plan
RPA	Recommended Priority Action
SIP	Site Implementation Plan
TOC	Table of Contents
U.S.	United States
USACE	United States Army Corps of Engineers
WBS	Work Breakdown Structure

Sub Listing of Project Site Acronyms

BNL	Brookhaven National Laboratory
CBFO	Carlsbad Field Office
EMCBC	Environmental Management Consolidated Business Center
ETEC	Energy Technology Engineering Center
GJO	Grand Junction Project Office
ICP	Idaho Cleanup Project
LASO	Los Alamos Site Office
NSO	Nevada Site Office
ORO	Oak Ridge Operations
ORP	Office of River Protection
PPPO	Portsmouth Paducah Project Office
RL	Richland Operations Office
SLAC	Stanford Linear Accelerator Center
SPRU	Separations Process Research Unit
SRSO	Savannah River Site Office
WVDP	West Valley Demonstration Project

Executive Summary

Since its creation in 1989, the Department of Energy, Office of Environmental Management (DOE EM) has struggled with a legacy of inadequate Project Management and Contract Management. This has been manifested in recurring scope changes, cost overruns and schedule delays, and has been documented in multiple internal and external reviews. DOE EM's current leadership has committed itself to being accountable for improving project performance. A number of pro-active EM Management Initiatives, including work with the National Academy of Public Administration and an increased emphasis on safety and quality, have already been recognized as strengths.

To continue these improvements, DOE EM has developed a vision for building a "Best-in-Class" Project Management and Contract Management organization, e.g., the BICPM Initiative. To develop the strategy and implement the process to accomplish this vision, DOE EM contracted with the U.S. Army Corps of Engineers (Huntington District) and their support contractors, Project Time & Cost, Inc. and Acquisition Solutions, Inc. to form the USACE Team.

During 2007, the USACE Team assessed the current status of Project Management and Contract Management at 16 DOE EM offices, including DOE EM Consolidated Business Center and DOE EM Headquarters. These Assessments evaluated strengths and weakness in 12 key Project Management capabilities against and three Contract Management benchmarks. The Assessments were documented in the Compilation Assessment Report. Figure 1 summarizes the results of these assessments.

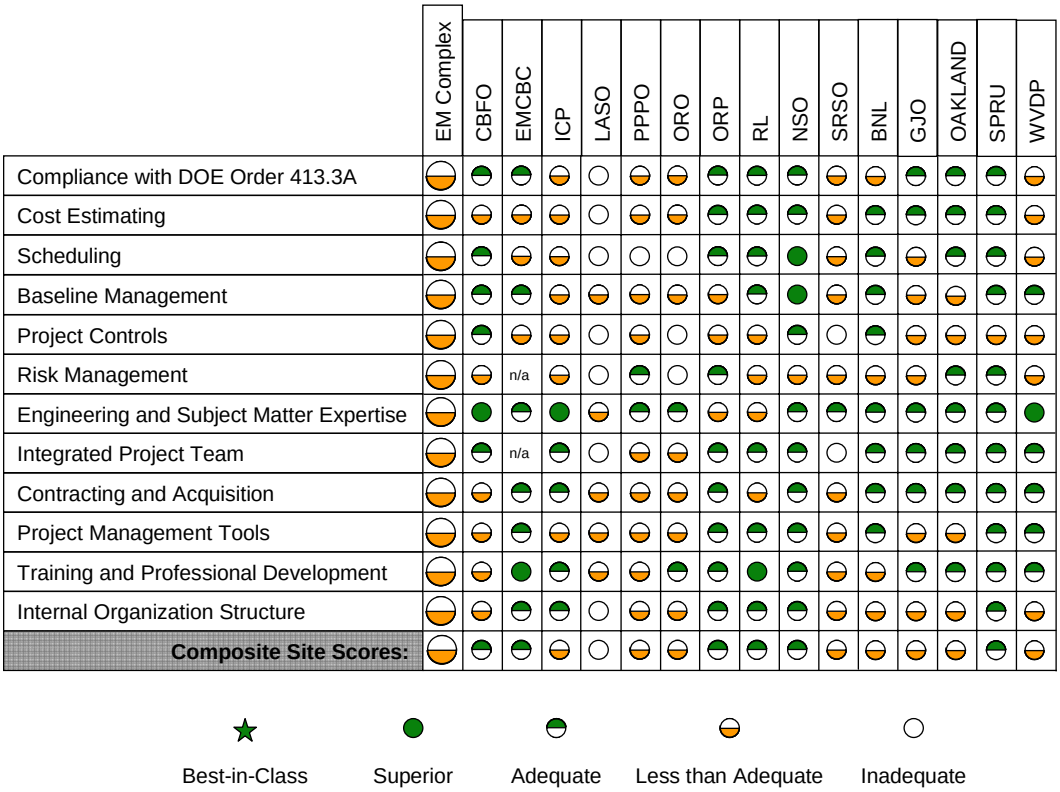

Figure 1. Results from PM Assessments

The results of these Assessments confirmed the results of other recent reviews, including the National Academy of Public Administration's (NAPA's) management review of the DOE EM Program and the DOE Office of Management's Root Cause Analysis of Project and Contract Management. In each of these reviews, the shortage of qualified resources dedicated to supporting Federal management functions was identified as a primary cause for Project Management and Contract Management difficulties within DOE EM. The Assessments identified more than 150 specific positions that are necessary to achieve BICPM. These positions are summarized in Table 1.

Table 1. Summary of Personnel Needs to Achieve BICPM

	EMCBC	LASO-EM	PPPO	ORO	ORP	RL	SRSO	All Others	**Total**
Project Controls	2	2	5	4	3	6	11	11	**44**
Cost Engineer	5	1	3	4	1	2	4	3	**23**
Scheduler		1	3	4		2	4	1	**15**
Risk Analyst	2	1	1	1	2	5	2	4	**18**
Other PM		12			1	8		3	**24**
Property Mgmt Spec	2		1		2	2	2		**9**
Cost/Price Analyst	3		1	1	2	2	2	1	**12**
Contract Spec	2		2		2	3	5		**14**
Total	**16**	**17**	**16**	**14**	**13**	**30**	**30**	**23**	**159**

The USACE Team has developed this Corporate Implementation Plan as a roadmap to addressing these challenges and to implementing "Best-in-Class" Project Management and Contact Management throughout DOE EM.

Corporate Implementation Plan

Section 1 of this Corporate Implementation Plan introduces the vision for BICPM, identifies the strategy for achieving BICPM and describes the process developed by DOE EM and the USACE Team for implementing BICPM.

Section 2 of this Corporate Implementation Plan identifies the challenges facing DOE EM and identifies Recommended Priority Actions to address these challenges. The USACE Team identified six significant challenges that DOE EM faces in the execution of its mission. These challenges are identified below:

- Federal Staffing Shortages.
- Integration of Project Management and Contract Management.
- Further Development of Project-Oriented Culture.
- Maintaining Project Baselines.
- Consistent Implementation of DOE Order 413.3A.
- Role of DOE EM Headquarters in BICPM.

This Plan identifies 18 Recommended Priority Actions (RPAs) that DOE EM should undertake to address these challenges and to implement BICPM within DOE EM. The 18 RPAs are as follows:

- Assign Leadership for BICPM Implementation.
- Provide Additional Project Management Resources.
- Provide Additional Contract Management Resources.
- Address Unresolved Baseline Change Proposals and Request for Equitable Adjustments.
- Develop and Improve Federal Work Plans at Each Site.
- Provide Project Management and Contract Management Capability Reinforcements.
- Complete DOE EM Project Management Guidance.
- Clarify Roles and Responsibilities between Project Management and Contract Management Organizations.
- Update and Implement Human Capital Plans.
- Establish a Standardized and Integrated Change Control Process.
- Establish Standards for DOE EM Management Products and Practices.
- Implement Enterprise Project Management Software Solutions.
- Streamline Critical Decision Document Review and Concurrence.
- Complete and Utilize Federal Risk Management Plans.
- Maintain Validated Federal Five-Year Baselines and Out-Year Planning Estimate Ranges.
- Implement Surveillances of Contractor Earned Value Management Systems.
- Identify Site-Specific Best Practices and Adopt across the Complex.
- Prioritize Training and Professional Development.

Within Section 3 of this Plan, each of the RPAs is described in greater detail. Steps to implement the action are provided and a description of the benefits of completing the action is developed. Recommended Priority Actions are also categorized in terms of timeframe for implementation.

Within Section 4 of this Plan, an effort has been made to demonstrate how the Recommended Priority Actions may be implemented by making use of a tailored Project Execution Plan. Elements of a tailored PEP (e.g., Work Breakdown Structure, Organizational Breakdown Structure, Schedule, etc.) are included as an appendix to this report.

By accomplishing the Recommended Priority Actions identified and described in this Corporate Implementation Plan, DOE EM will move toward Institutionalizing “Best-in-Class” Project Management and Contract Management at DOE EM Headquarters, DOE EM CBC and throughout the DOE EM Sites.

1.0 Introduction

The mission of the Department of Energy's Office of Environmental Management (DOE EM) is to complete the safe cleanup of the environmental legacy brought about from five decades of nuclear weapons development and government-sponsored nuclear energy research. The scope of DOE EM is extensive and includes multiple work elements:

- Decommission and demolish contaminated facilities.
- Stabilize and disposition of remaining nuclear reactors.
- Repackage, manage and dispose of radioactive and mixed waste.
- Design and construct specialized treatment facilities.
- Treat millions of gallons of highly radioactive liquids and sludge.
- Remediate soil and water contamination.

DOE EM is embracing a management philosophy that is based on reducing risk and environmental liability—safely, in compliance with environmental requirements, and within anticipated project baselines.

Previous Assessments and reviews have uniformly identified issues with Project Management and Contract Management throughout the DOE EM. The current Assistant Secretary for Environmental Management has made a commitment to increase DOE EM's concentration on Project Management (PM) and Contract Management (CM) to improve its overall performance in achieving cost-effective risk reduction. To accomplish this, DOE EM initiated the "Best-in-Class" Project and Contract Management (BICPM) Initiative to develop and implement a "Best-in-Class" capability in these two critical areas.

A "Best-in-Class" management organization possesses skills and knowledge in core Project Management and Contract Management capabilities. These capabilities address a broad range of activities, encompass leadership and continuous improvement, and are reflected in the knowledge, skills and tools needed to support excellence. They are validated by periodic and frequent measurement against established performance benchmarks.

In addition, a Contract Management Assessment identified resource needs based on observed gaps in key Contract Management functions.

1.1 Vision for Best-in-Class Project Management Initiative

DOE EM's vision for BICPM articulates the specific attributes that define and delineate a "Best-in-Class" management organization. When implementation of BICPM occurs within DOE EM, the following attributes will be achieved:

- A true Project-Oriented Culture will exist within DOE EM.
- Federal staff will be actively involved in key Project Management and Contract Management activities.

- Project Management and Contract Management functions will be thoroughly integrated across the DOE EM Complex.
- DOE EM Sites, DOE EM Consolidated Business Center (CBC) and DOE EM Headquarters will be staffed with the appropriate PM and CM capabilities.
- Federal Risk Management Plans (RMPs) will be implemented at each site and actively used to manage and control risk and to establish Federal contingency levels within all Project Baselines.
- Each Project Baseline Summary (PBS) will have a validated Baseline and a Certified Out-Year Planning Estimate Range (OPER).
- DOE EM will conduct periodic surveillance of contractor Earned Value Management Systems (EVMS).
- A consistent and well-understood process for DOE Order 413.3A compliance will be implemented and will become a standard business practice.
- DOE EM Headquarters and DOE EM CBC will support and enable DOE EM projects.

1.2 Strategy for Achieving BICPM

In early 2007, the Assistant Secretary for Environmental Management summarized the Strategic Plan for achieving the BICPM vision using the graphic in Figure 2.

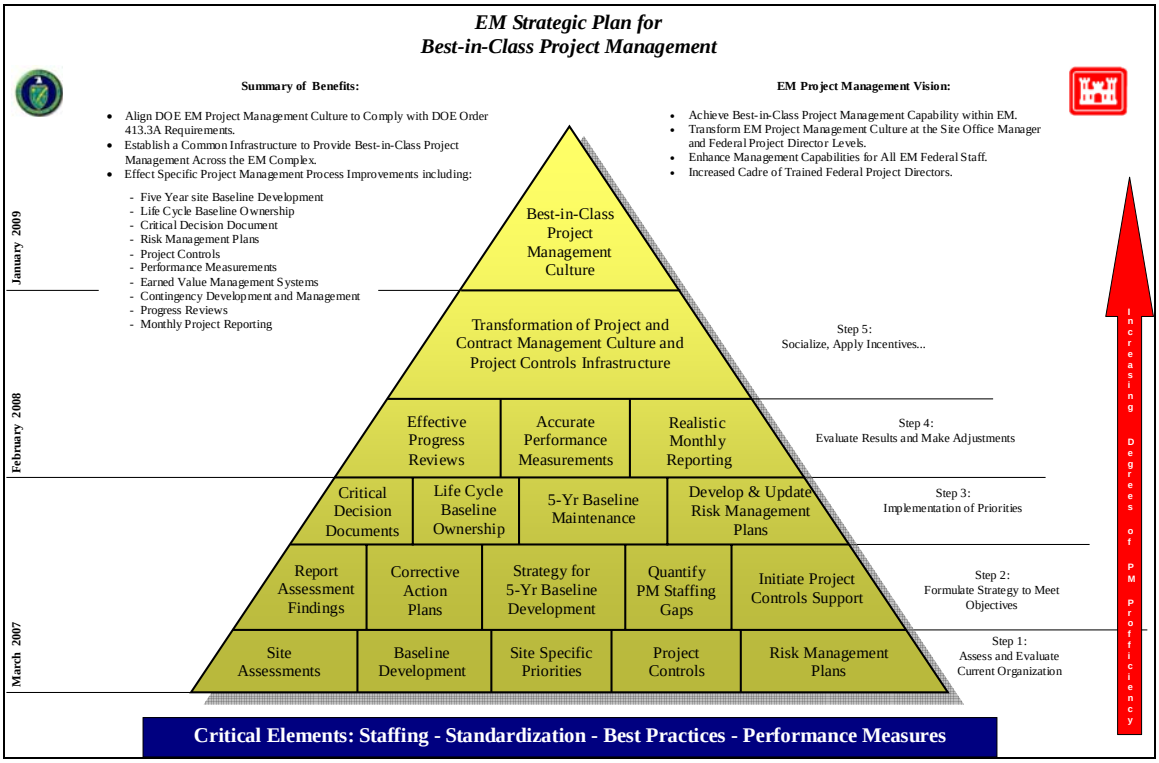

Figure 2. 2007 BICPM Strategic Plan

The 2007 BICPM Strategic Plan identifies specific steps and critical elements for achieving a "Best-in-Class" Project Management culture within the DOE EM Program.

- Assess and Evaluate Current Organization – Perform Site Assessments, finalize Baseline Development, identify site-specific priorities, initiate improved project controls and review Risk Management Plans.
- Formulate Strategy to Meet Objectives – Report Assessment findings, develop Corrective Action Plans, develop strategy for Five-Year Baseline maintenance, quantify PM and CM staffing needs, and initiate project controls support.
- Implementation of Priorities – Develop Critical Decision Documents, promote Lifecycle Baseline ownership, continue maintenance and validation of Five-Year Baselines, and develop Risk and Contingency plans.
- Evaluate Results and Make Adjustments – Initiate effective progress reviews, develop accurate performance measurements and institute realistic monthly reporting.
- Socialize and Apply Incentives – Transform Project Management and Contract Management culture across the DOE EM Complex.

1.3 Process for Implementing 2007 BICPM Strategic Plan

DOE EM developed a Five-Phased process to implement the BICPM Strategic Plan. DOE EM enlisted the support and experience of the U.S. Army Corps of Engineers (Huntington and Walla Walla Districts) and their support contractors, Project Time & Cost, Inc. (PT&C) and Acquisition Solutions, Inc. (ASI), to undertake this process. The Five Phases are identified below:

Phase I – Assessment Criteria And Work Plan Development. During Phase I, the USACE Team developed a Detailed Work Plan to identify the criteria associated with a BICPM organization and to address how to perform the Site Assessments. Twelve key Project Management capabilities and benchmarks and three Contract Management benchmarks were identified and formed the basis for evaluating existing PM and CM capabilities.

Phase II – Assessment of Existing Capabilities. In Phase II, the USACE Team performed a comprehensive Assessment of existing PM and CM capabilities across the DOE EM Complex. Qualitative and quantitative Assessments of the 12 key PM capabilities and three CM benchmarks were performed at 16 DOE EM offices, including the DOE EM CBC and DOE EM Headquarters. These Assessments were completed in October 2007. The USACE Team prepared individual Assessment Reports for each Site. These individual Assessment Reports were consolidated into the Compilation Assessment Report, which was completed in January 2008. The Compilation Assessment Report identified specific challenges to achieving BICPM culture throughout DOE EM and identified recommendations to support its development.

Phase III – Develop Corporate Implementation Plan. During Phase III, the USACE Team has developed a consolidated Corporate Implementation Plan (CIP) to address each of the challenges identified in the Compilation Assessment Report. The Corporate Implementation Plan outlines how to implement BICPM by identifying key strategies and prioritizing the recommendations outlined in the Compilation Assessment Report. Steps for implementation of each Recommended Priority Action (RPA) are also included. Site-specific Corrective Action Plans are being developed in response to the individual Site Assessment Reports in the form of Site Implementation Plans (SIPs). Upon receipt, the USACE Team will incorporate SIP actions into the final Corporate Implementation Plan.

Phase IV – Implement Actions from Corporate Implementation Plan. In Phase IV, the USACE Team will use the strategies and Recommended Priority Actions identified in the Corporate Implementation Plan to support DOE EM in addressing the recommendations made in the Compilation Assessment Report. Working in cooperation with DOE EM, the USACE Team accelerated the start of Phase IV by beginning to place Project Management Controls Support resources at Sites in September 2007.

Phase V – Institutionalization of BICPM Across the DOE EM Complex. In Phase V, "Best-in-Class" Project Management and Contract Management is accomplished and is evidenced by substantial improvements in PM and CM performance and an effective Project-Oriented Culture throughout the DOE EM Complex.

This report summarizes the results of Phase III, the development of the Corporate Implementation Plan. In Section 2, the Plan delineates the challenges facing DOE EM, identifies strategies to address these challenges and recommends and prioritizes specific actions necessary to put BICPM into practice within DOE EM. A general description of the specific steps for implementation of each Recommended Priority Action (RPA) has been developed and is presented in Section 3.

2.0 Approach to BICPM Corporate Implementation

In Phase II of the BICPM Initiative, the USACE Team performed comprehensive Project Management Assessments of existing PM capabilities at 16 DOE EM offices, including the DOE EM CBC and DOE EM Headquarters. The PM Assessments evaluated the strengths and weaknesses in 12 key PM capabilities and against 3 Contract Management benchmarks. The Assessments were documented in the Compilation Assessment Report and an overall Contract Management Assessment Report. The Executive Summaries of these reports are provided in Appendix A and Appendix B. Figure 3 summarizes the results of the Project Management assessments.

These Compilation Assessment Reports identified specific challenges to developing a BICPM culture throughout the DOE EM Complex and identified recommendations to support development of BICPM within DOE EM. This section reiterates the challenges and their impacts and proposes a set of 18 Recommended Priority Actions (RPAs) necessary to implement BICPM throughout the DOE EM Complex.

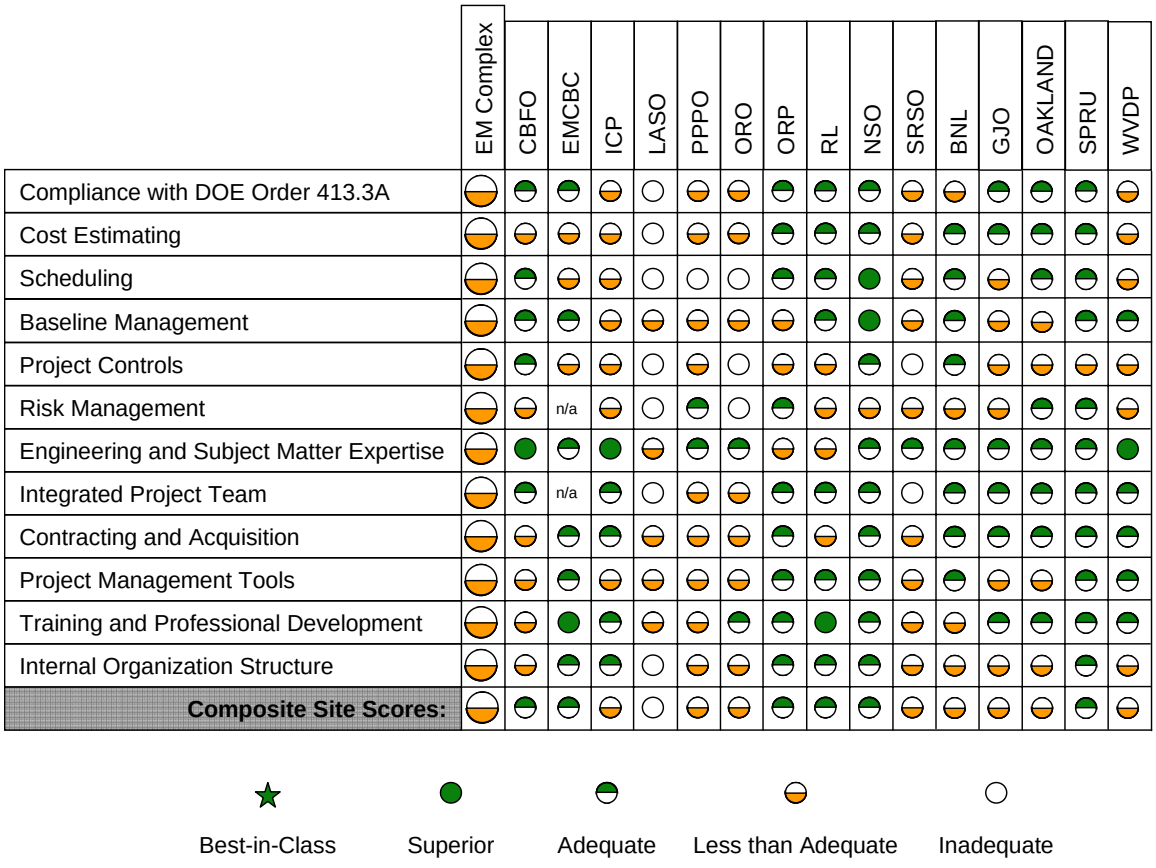

Figure 3. Results from 2007 Phase II PM Assessments

2.1 Challenges Facing DOE EM

As a result of the Phase II Assessments of DOE EM Sites, DOE EM CBC and DOE EM Headquarters, the USACE Team developed the Compilation Assessment Report, which identified the following six significant challenges that DOE EM must overcome to achieve BICPM. These challenges are contrasted with Project and Contract Management in Appendix C.

Challenges Facing DOE EM
to Achieve BICPM

- Federal Staffing Shortages
- Integration of Project Management and Contract Management
- Further Development of Project-Oriented Culture
- Maintaining Project Baselines
- Consistent Implementation of DOE Order 413.3A
- Role of DOE EM Headquarters in BICPM

Challenge 1 – Federal Staffing Shortages

A widespread shortage of Federal and Federal support staff, as shown in Table 2, is evident at all Sites, DOE EM CBC and DOE EM Headquarters. Key functional areas where shortages exist include Project Management, Contract Management, Baseline Management and Project Controls. Specific positions for which insufficient staffing is available include:

- Federal Project Directors
- Cost Engineers
- Schedulers
- Risk Management Specialists
- Project Engineers
- Procurement Specialists
- Property Specialists
- Contracting Officer's Representatives

As a result of these shortages, Sites do not have access to sufficient numbers of personnel to accomplish "Best-in-Class" management of the PBSs for which they are responsible. In some cases, Sites do not have access to the complete skill sets required. For example, shortages of cost engineers prevent many sites from developing independent estimates for the costs of contractor Baseline Change Proposals (BCPs) and Requests for Equitable Adjustment (REA). Similarly, overburdened procurement specialists and Contracting Officer's Representatives (CORs) are

unable to analyze, negotiate and process BCPs and REAs in a timely and effective manner. Often, Federal personnel have become dependent solely on contractor reporting because thinly stretched Federal project controls personnel do not have the opportunity to perform a thorough independent analysis. The overall result is a lack of Federal ownership, an overdependence on contractor results, backlogged contracting actions and crisis management.

The Phase II Compilation Assessment Report identified, by Site, specific gaps in core competencies associated with these personnel needs and proposed adding more than 150 additional PM and CM personnel across the DOE EM Complex.

Table 2. Site Funding and Overall Staffing Needs

Site	FY08 EM Funding	Current DOE Staffing	Additional Staff Needed	Total DOE Staff
CBFO	234.6	41	3	44
EM CBC[1]	74.7	151	16	167
ICP	513.7	57	7	64
LASO[2]	154.0	6	17	23
PPPO	357.9	42	16	58
NSO[2]	80.4	2	4	6
ORO	472.7	79	14	93
ORP	969.5	106	13	119
RL	896.7	244	30	274
SRSO	1,131.2	325	30	355
BNL	28.4	*	2	---
GJO	23.7	*	1	---
Oakland	18.7	*	2	---
SPRU	27.3	*	1	---
WVDP	53.9	*	3	---
Total[3,4]	5037.6	1,330	159	1,489

[1] CBC Total includes all small sites not explicitly identified.
[2] Current DOE Staffing approximated by USACE Team.
[3] Total does not include $657.3 million in funding for HQ Operations, Program Direction, Safeguards and Security, and Technology Development
[4] Total Current DOE Staffing Count includes the overall Headquarters count of 277 (Source: Draft EM Human Capital Management Plan, dated Oct. 1, 2007).
* Individual Current Site Staffing counts included in the overall Headquarters count of 277

Addition of these resources would enable:

- Preparation of Independent Government Cost Estimates (IGCEs) for new acquisitions.
- Thorough analysis of contractor generated Baselines and monthly reporting.

- Development of thorough independent cost and technical analysis of BCPs and REAs.
- Integration of PM and CM that would allow for more timely contracting actions as changes in projects occur.
- Transition from performing passive oversight of contractors to active Project Management of contractors.
- Increased Federal project ownership.

DOE EM initiated the first task of Phase IV of BICPM by placing 50 support contractor Full Time Equivalents (FTEs) with Project Management Controls expertise at 14 DOE EM Sites. This effort was undertaken to begin to address the severe shortage of DOE EM PM and CM staffing.

Challenge 2 – Integration of Project Management and Contract Management

Contract Management Plans (CMPs) have been developed and approved for most contracts, and well defined roles and responsibilities for contracting and property personnel appear to exist. Communication among contracting stakeholders is generally good. However, integration between PM and CM functions is inadequate at Sites and at DOE EM Headquarters. In some instances, this can be traced to ongoing shortages of Federal staffing in both the PM and CM areas, as discussed previously. Organizational "stove-piping" also contributes to the lack of integration between Project Management and Contract Management.

In many instances, contracting actions (e.g., contract Statements of Work, contract values, incentive clauses, etc.) have trailed the implementation and execution of these changes within validated Baselines on the Project Management side (e.g., project scopes, Budgeted Cost of Work Scheduled, etc.). As a consequence, contractors may find themselves in the middle, having received agreement with DOE EM personnel on an acceptable technical solution, but being prohibited from implementing the solution pending official contracting action.

The Phase II Compilation Assessment Report identified specific areas for improved integration of PM and CM. Addressing these areas would ensure:

- More consistent business practices, including:
  - Improved processes for estimating the value of changes.
  - More thorough processes for review/incorporation of BCPs and REAs.
  - Standardized practices for implementing contract changes.
- Better understanding of Contract Management by Federal Project Directors (FPDs) and Project Engineers.
- Early and formal Contract Management involvement in Project Recovery Actions.
- Integration of Government Furnished Services and Information (GFS/I) into Federal project schedules to ensure tracking and delivery.

- Improved oversight of Government-Owned Property.

Challenge 3 – Further Development of Project-Oriented Culture

Most Sites have not completely instituted a Project-Oriented Culture that clearly moves toward the end state of the DOE EM mission for the Site. As part of a Project-Oriented Culture, Sites have not adequately defined career paths or developed succession plans to help employees plan for transition away from current roles at the end of the cleanup process.

The USACE Team observed the culture resident within Sites, DOE EM CBC and DOE EM Headquarters. The USACE Team found Sites have developed and are displaying some elements of a Project-Oriented Culture. At a corporate level, DOE EM needs to embrace a more complete transition from the old Program/Operating culture to the newer Project-Oriented Culture. This transition will support Sites in achieving significant cleanup progress.

Critical elements necessary to implement a Project-Oriented Culture that must be embraced by all DOE EM employees include:

- The vision for completion of DOE EM missions with a target end date for all currently known scope.
- A broad understanding of the project's scope, schedule and cost by all employees and stakeholders.
- A substantial reward and discipline system.
- Succession plans for employee transition to roles following project completion.

The cultural change process will take time and will be difficult to implement. The effort must be initiated at the Assistant Secretary level and communicated to all DOE EM personnel at every opportunity. Once implemented, a Project-Oriented Culture will motivate employees to demonstrate increased ownership, accountability and responsibility.

Challenge 4 – Maintaining Project Baselines

By the end of February 2008, the DOE EM will have Project Baselines and Certified Out-Year Planning Estimate Ranges (OPERs) for all of its PBSs, which have been validated by an independent third party. This accomplishment is the result of extraordinary efforts on the part of DOE EM and contractor personnel across the Complex during the past 18 months. It will be important to build on the momentum gained by these efforts to maintain these Baselines in response to directed changes in scope, cost and schedule that results from interactions with regulators, discoveries of additional areas of contamination, shifts in Congressional funding levels and changes in prioritization.

By closely tracking and maintaining Project Baselines and OPERs within the BICPM, the DOE EM can expect improved project performance. Examples include:

- Reductions in significant cost and schedule variances.
- Increased Corporate and Congressional confidence.

- Timely approval of necessary Contracting Actions and Baseline Changes.
- Fewer requirements for major re-planning of projects.

The Phase II Compilation Assessment Report identified recommendations that address maintaining the existing Baselines and increasing the consistency of information and rigor of planning within Out-Year Planning Estimate Ranges. Recommended Priority Actions within Section 3 provide specific steps for addressing this challenge.

Challenge 5 – Consistent Implementation of DOE Order 413.3A

The primary orientation of DOE Order 413.3A, *Program and Project Management for the Acquisition of Capital Assets*, addresses new construction projects, rather than environmental cleanup projects. This presents specific difficulties for DOE EM Sites in applying the Order's requirements for Decontamination and Decommissioning (D&D) and environmental restoration, where Site-specific conditions, end states and regulatory authorities make each project very unique. Sites are inconsistent in their approaches to preparing tailoring strategies. Most Sites have prepared Integrated Project Team (IPT) charters for their Projects, but the consistency of the support that IPTs provide to the Federal Project Director varies considerably from Site to Site and from Project to Project. Processes and standards for the preparation of documents supporting Critical Decisions (CDs) do not provide clear guidance.

As a result, the documents submitted to support CDs and BCPs, as well as REAs, vary considerably in approach and quality. This has been especially visible with respect to key areas such as Risk Management and the development of Risk-Based Management Reserve and Contingency Values. DOE EM Headquarters has not adequately provided the Sites with timely review of submitted CD documents and consistent guidance for completing them. Consistent Implementation of DOE Order 413.3A appears to be lacking in a number of critical areas, such as:

- Tailoring Strategies.
- Risk Management.
- Packaging and Presentation of Critical Decision Documentation.
- Project Controls.
- Cost Estimating.
- Utilization of Contingency.
- Functionality of Integrated Project Teams.

With input from the Sites, DOE EM Headquarters should work with Office of Engineering and Construction Management (OECM) to develop a revised approach to these elements that recognizes the unique nature of DOE EM cleanup projects. Once revised, DOE EM Headquarters should develop clear and consistent guidance for implementation of DOE Order 413.3A through BICPM. Meeting this challenge will enhance the effectiveness of the Critical Decision documentation approval process and provide better IPT support to Federal Project Directors. Recommended Priority Actions within Section 3 provide specific steps for addressing this challenge.

Challenge 6 – Role of DOE EM Headquarters in BICPM

In the DOE EM Headquarters Assessment, the USACE Team observed that DOE EM Headquarters is generally not performing as a Champion for Sites, an absolutely critical function to achieve significant cleanup progress. For example, the approval process for Critical Decision documents would benefit from streamlining. It currently requires too many reviews and reviewers are not held accountable for timely participation. Sites are reluctant to report negative project status because DOE EM Headquarters responds with increased monitoring and control over Sites, rather than with the increased support and resources necessary to identify and correct the root causes. Clear and consistent policy and guidance, especially on complex topics such as the Risk Management and the development and Utilization of Contingency, is not always consistently available.

Without effective support and enabling from DOE EM Headquarters, Sites experience delays in the Critical Decision approval process and protracted approvals of Contracting Actions and BCPs. Actions to make DOE EM Headquarters more effective in project performance include:

- Consistent application of policy across the Complex.
- Improved accountability for DOE EM Headquarters' actions.
- Tailored approaches to document review and approval.
- Proactive and defined methods for Project Recovery.

As DOE EM Headquarters champions BICPM and provides clear direction, consistent interpretation and implementation of policy, and streamlined processes for CD document review and concurrence, there will be increasing recognition of DOE EM Headquarters as an enabling partner in projects. Recommended Priority Actions within Section 3 provide specific steps for addressing this challenge.

2.2 Recommended Priority Actions

In addition to the BICPM effort sponsored by DOE EM, other reviews of DOE's EM Program and DOE's Project Management in general have recently been completed.

Responding to concerns from the Senate and House Appropriations Committees, the National Academy of Public Administration (NAPA) recently completed a management review of the DOE EM Program. This review was conducted on a highly interactive basis with DOE EM over more than 18 months. The NAPA report, "Office of Environmental Management: Managing America's Defense Nuclear Waste," was published in December 2007. One of the fundamental problems identified in this report is "a mismatch between the work that the Office of Environmental Management has been asked to perform and the staff resources required to perform it."

On October 9, 2007, the Deputy Secretary of Energy tasked DOE's Office of Management to take the lead in conducting an analysis to identify the underlying root causes contributing to Project Management and Contract Management deficiencies. At a Root Cause Analysis (RCA) workshop held later that month, Federal Project Directors from across the Complex, representatives from the Office of Environmental Management, the National Nuclear Security Administration, and the Office of Science, and members of the Office of Engineering and Construction Management met in facilitated sessions. The results of that workshop identified and ranked multiple issues leading to the above-referenced deficiencies. One of the top ten issues identified was an inadequate number of Federal contracting and project personnel with appropriate skills to plan, direct and oversee project execution.

In addition to these two primary findings, the NAPA report and the RCA workshop identified other recommendations for improving management of the DOE EM Program and improving Project Management and Contract Management within the Department, respectively. The USACE Team compared these recommendations to their recommendations in the Compilation Assessment Report. This comparison showed that the vast majority of the recommendations were common to at least two of the reports. The detailed comparison has been provided in Appendix D.

The USACE Team developed the list of 18 Recommended Priority Actions (RPAs) identified in Figure 4. Throughout the implementation of these RPAs, DOE EM and the USACE Team will coordinate these actions with on-going NAPA responses and EM initiatives to ensure an integrated best-in-class effort and consistent consideration of all recommendations. Further, these RPAs reconcile well with site-specific corrective actions explained within the Site Implementation Plans. Appendix E shows the correlation between the RPAs and the site-specific SIP corrective actions using a Gap Analysis. Descriptions of specific implementing steps for each of these RPAs are found in Section 3 of this Corporate Implementation Plan.

	Recommended Priority Actions	Implementation Begins	Responsible Element	Proposed WBS	DOE EM Challenges: Federal Staffing Shortages	Integration of Project and Contract Management	Further Development of Project-Oriented Culture	Maintaining Project Baselines	Consistent Implementation of O 413.3A	Role of EM Headquarters
1	Assign Leadership for BICPM Implementation	Near	HQ	1.1.1	✓	✓	✓	✓	✓	✓
2	Provide Additional Project Management Resources	Near	HQ/F	1.2.1	✓	✓		✓	✓	
3	Provide Additional Contract Management Resources	Near	HQ/F	1.2.2	✓	✓		✓	✓	
4	Address Unresolved Baseline Change Proposals and Request for Equitable Adjustments	Near	HQ/F	1.4.1		✓	✓	✓		
5	Develop and Improve Federal Work Plans at Each Site	Near	F	1.4.2	✓	✓	✓	✓	✓	
6	Provide Project Management and Contract Management Capability Reinforcements	Near	HQ	1.2.3	✓			✓	✓	✓
7	Complete DOE EM Project Management Guidance	Near	HQ	1.3.1		✓	✓	✓	✓	
8	Clarify Roles and Responsibilities between Project Management and Contract Management Organizations	Near	HQ	1.4.3		✓	✓	✓		✓
9	Update and Implement Human Capital Plans	Mid	HQ/F	1.1.2	✓					
10	Establish a Standardized and Integrated Change Control Process	Mid	HQ/F	1.4.4		✓		✓	✓	✓
11	Establish Standards for DOE EM Management Products and Practices	Mid	HQ	1.3.2		✓	✓	✓	✓	
12	Implement Enterprise Project Management Software Solutions	Mid	HQ	1.5.1		✓	✓	✓	✓	✓
13	Streamline Critical Decision Document Review and Concurrence	Mid	HQ	1.3.3		✓		✓	✓	✓
14	Complete and Utilize Federal Risk Management Plans	Mid	F	1.4.5		✓	✓	✓	✓	
15	Maintain Validated Federal Five-Year Baselines and Out-Year Planning Estimate Ranges	Long	F	1.4.6			✓	✓	✓	
16	Implement Surveillances of Contractor Earned Value Management Systems	Long	F	1.4.7		✓	✓	✓		
17	Identify Site-Specific Best Practices and Adopt across the Complex	Long	HQ/F	1.3.4		✓	✓	✓	✓	✓
18	Prioritize Training and Professional Development	Long	HQ/F	1.1.3	✓	✓	✓	✓	✓	✓

Note: Near – Starting before June; Mid – Starting between June and September 08; Long – Starting in FY09
HQ – Headquarters; F-Field

Figure 4. Recommended Priority Actions

These RPAs are linked to the Work Breakdown Structure proposed in Appendix F. This appendix also presents a proposed Organizational Breakdown Structure, a Requirements Assignment Matrix, and a summary implementation schedule for these RPAs.

3.0 Recommended Priority Actions and Implementation Steps

This Section provides a synopsis of each of the 18 Recommended Priority Actions (RPAs) identified in Section 2. Each synopsis explains the intent of the RPA, identifies the Implementation Steps and summarizes the benefits to DOE EM of completing the action. As noted in Table 1, the RPAs were correlated to the challenges to BICPM that DOE EM must address. Each RPA has been developed independently. While it is clear that interrelationships between the RPAs exist (e.g., completion of one RPA may significantly assist in the completion of another RPA), this Section makes no attempt to identify or address these interrelationships.

3.1 Near Term Recommended Priority Actions

RPA 1 – Assign Leadership for BICPM Implementation

The success of any project is dependent on leadership. Leadership of the BICPM Initiative will require extensive planning, a commitment to DOE EM and the BICPM vision, enthusiasm for the task and the process, and constant communication with participants across the Complex. The implementation steps for this action include:

- Designate a DOE EM Headquarters Champion for BICPM.
- Establish leads for each Recommended Priority Action.
- Identify Site Champions for BICPM.
- Establish formal progress sessions between Recommended Priority Action Leads and Site Technical Monitors.
- Establish a BICPM Project Support Team to assist in communication, documentation, progress reporting and integration with other EM initiatives.
- Measure progress on accomplishing Recommended Priority Actions and brief the Assistant Secretary in charge of DOE EM (EM-1) and other elements of DOE EM management periodically.
- Set the example for DOE EM—finish planning and start "doing" to improve DOE EM.

Establishing accountable leadership for the BICPM Initiative at DOE EM Headquarters and in the Field, will encourage participation, increase BICPM ownership and provide clear direction and control. Establishing the DOE EM Headquarters Champion at a high level within the DOE EM management structure will demonstrate the organization's buy-in and commitment to the BICPM concept.

RPA 2 – Provide Additional Project Management Resources

At the Site level the most significant obstacle to BICPM is the lack of skilled and qualified Project Management resources. The Phase II Assessments recommended the addition of PM staff (cost estimators, schedulers, project controls and risk managers) to the existing contingent

of Project Management professionals across the DOE EM Complex. The ultimate long term solution is to attain adequate Federal staff levels at each Site. Since the process for establishing new Federal positions and recruiting, training and deploying of Federal employees can take more than a year to accomplish, support contractor personnel will be required to address these needs in the near term.

The Phase II Assessments identified the need for a total of 124 additional Project Management resources across the DOE EM Complex (See Table 3). Beginning in September 2007, the DOE EM, through the USACE Team, deployed 50 additional Project Management resources at 14 Sites (See Table 4). This deployment of PM resources was the first part of Phase IV - Implementation Phase. Currently, 74 additional Project Management resources need to be deployed at the Sites, DOE EM CBC and DOE EM Headquarters. Implementation steps for this action include:

- Identify priorities and establish commitment dates for PM resource deployment.
- Develop a tailored strategy (mix of contractor and new Federal hires) for staffing each PM position.
- Near Term – Identify and implement strategies to fill priority positions quickly.
- Long Term – Fill PM positions with a mix of new Federal employees and contractors based on DOE EM decisions and the duration of the cleanup mission.
- Develop Work Plans and schedules for Project Management deliverables that are task based.
- Empower the BICPM Technical Monitor at each Site to coordinate the BICPM effort and to communicate with DOE EM Headquarters and DOE EM CBC.
- Typical BICPM teams will consist of a site-specific mix of personnel with appropriate skill sets, such as team leads, cost engineers, schedulers, risk analysts and project controls personnel.
- BICPM teams should be sized to a level that ensures steady activity but which is not expected to handle every conceivable PM need. Surge support to augment BICPM teams should be provided for resource-intensive PM activities (See RPA 6).
- The final number of resources should be based on Site-specific needs, which is determined by the type, number and complexity of PBSs, as well as the status of the PBSs in terms of the Critical Decision process.

Table 3. Detailed Phase II Assessment Results - Additional Resources Needed by Site and by Skill Set

Position Description	Site															
	CBFO	EMCBC	ICP	LASO-EM	PPPO	NSO	ORO	ORP	RL	SRSO	Oakland	SPRU	WVDP	BNL	GJO	Total
Project Management Requirements																
Project Controls	1	2	3	2	5	1	4	3	6	11	2	1	1	1	1	44
Cost Engineer		5	1	1	3	1	4	1	2	4			1			23
Scheduler				1	3	1	4		2	4						15
Planner	1		2						3							6
Risk Analyst	1	2		1	1	1	1	2	5	2			1	1		18
COTR									1							1
Federal Project Director				2												2
Project / Task Manager				6												6
Integration Lead				1												1
Regulatory Outreach Agent				1												1
NNSA/EM Liaison				1												1
Facility Representative				1												1
Program Risk Integration								1								1
Data Analyst									2							2
Design Engineer									2							2
Project Management Subtotal	*3*	*9*	*6*	*17*	*12*	*4*	*13*	*7*	*23*	*21*	*2*	*1*	*3*	*2*	*1*	*124*
Contract Management Requirements																
Property Mgt Specialist		2			1			2	2	2						9
Cost/Price Analyst		3	1		1		1	2	2	2						12
Contract Specialist		2			2			2	3	5						14
Contract Management Subtotal		*7*	*1*		*4*		*1*	*6*	*7*	*9*						*35*
Grand Total	**3**	**16**	**7**	**17**	**16**	**4**	**14**	**13**	**30**	**30**	**2**	**1**	**3**	**2**	**1**	**159**

Table 4. PM Resources Placed in Phase IV and Remaining Needs

Site	Total Need	Placed Per Phase IV	Remaining Needs
CBFO	3	2	1
EM CBC	9	0	9
ICP	6	3	3
LASO	17	5	12
PPPO	12	5	7
NSO	4	2	2
ORO	13	8	5
ORP	7	3	4
RL	23	8	15
SRSO	21	7	14
BNL	2	1	1
GJO	1	1	0
Oakland	2	2	0
SPRU	1	1	0
WVDP	3	2	1
Total	**124**	**50**	**74**

Federal PM staffing shortages were found to be the fundamental roadblock to BICPM. The Project Management support staff that the USACE Team has already placed allows DOE EM to get critically needed PM resources into the Sites quickly and significant benefits are already being realized. Future development of a tailored staffing strategy will enable DOE EM to ensure that the appropriate number and type of PM resources (new Federal hire or contractor) will be deployed to meet the BICPM needs for each Site.

RPA 3 – Provide Additional Contract Management Resources

DOE EM recognizes that effective Contract Management is one of the most critical components to successful project execution. The deployment of adequate CM resources, in concert with PM resources, is fundamental to achieving a "Best-in-Class" Project-Oriented Culture throughout the DOE EM Complex.

The Phase II Assessment Report recommended that 35 additional Contract Management professionals be deployed to Sites across the DOE EM Complex. The recommended CM personnel are also shown in Table 3.

Implementation steps for this action include:

- Define PM and CM roles, responsibilities, and interrelationships throughout the Complex.
- Confirm additional CM staffing needs in terms of skill sets and count by Site.

- Identify priorities and establish commitment dates for CM resource deployment.
- Develop a tailored strategy (mix of contractor and new Federal hires) for staffing each CM position.
- Near Term – Identify and implement strategies to fill priority positions quickly.
- Long Term – Fill CM positions with a mix of new Federal employees and contractors based on DOE EM decisions and the duration of the cleanup mission.
- Develop Work Plans and schedules for Contract Management deliverables that are task based.

With an adequate number of properly trained CM personnel in place, DOE EM will significantly increase its ability to manage its contractors. When these CM personnel are integrated with PM personnel, DOE EM can achieve BICPM capabilities as it relates to interacting with Site contractors in terms of contractual performance oversight, property management, performance monitoring and cost management.

RPA 4 – Address Unresolved Baseline Change Proposals and Request for Equitable Adjustments

The Phase II Assessment found that the current value of unresolved Baseline Change Proposals (BCPs) and Request for Equitable Adjustments (REAs) associated with DOE EM contracts exceeds $6 billion. While the situational and institutional drivers for this condition must be addressed, DOE EM must begin to address the most significant BCPs and REAs now. Waiting to correct the process will not reduce the backlog; it will only make it worse.

DOE EM must begin to address these BCPs and REAs so that gains made elsewhere in the BICPM project will not be overshadowed. In parallel, DOE EM should develop detailed Contract Management Procedures that define Contract and Baseline Change Processes, including the development of independent estimates for unresolved BCPs and REAs that are not in the process of being addressed.

Steps to address unresolved BCPs and REAs include:

- Determine the most significant BCPs and REAs that will be addressed first.
- Develop a Work Plan with Baseline or Project stakeholders to identify a path forward for resolving each selected BCP and REA.
- Establish teams of specialists capable of addressing both the technical and contractual aspects of each BCP or REA.
- Finalize the scope of this effort, estimate costs and identify funding.
- Resolve BCPs and REAs on a prioritized basis.

The resolution of the DOE EM backlog of unresolved REAs and BCPs will aid in bringing contracts up to date and allow project stakeholders to move the project forward on a clear path to completion.

RPA 5 – Develop and Improve Federal Work Plans at Each Site

The development and continuous maintenance of Federal Work Plans at each Site is critical to allow for accurate tracking of DOE EM responsibilities and obligations. Project Execution Plans are the core documents for management of a project and establish the overarching policies and procedures to manage and control project planning, initiation, definition, execution, and transition/closeout.

Federal Work Plans provide a detailed real-time supplement to Project Execution Plans that dynamically identifies and tracks specific federal actions. These include the following:

- Review and Approval of specific contractor submissions.
- Concurrence with contractor actions, where necessary.
- Coordination with other DOE EM Sites.
- Assignment of Site Project Control assets.
- Major activities dependent on incremental funding.
- Timely Delivery of GFS/I Obligations.

All PM Work Plans should be developed to allow for timely reviews on a regular basis including:

- Weekly.
- Monthly.
- Quarterly.
- Semi-Annual.
- Annual.
- Project Near-Term.
- Project Lifecycle.

Federal Work Plans for each Site must be developed to synchronize with those of the site contractors, DOE EM Headquarters and other associated DOE EM Sites.

RPA 6 – Provide Project Management and Contract Management Capability Reinforcements

The Phase II Assessment teams repeatedly received confirmation of extreme resource shortages driven by short-term requirements for additional or specialized PM and CM resources. Site-based resources often need assistance with document development or review of documentation for externally driven events or they could benefit from temporary access to resources with specialized skills. As the BICPM Initiative matures and there is more integration between PM and CM processes, the use of specialized resource teams will assist in Socializing the BICPM

Initiative. Furthermore, this action item plays a key role in addressing limiting factors to the Integrated Project Teams (IPTs) that were identified in the NAPA report.

By the use of a combination of Federal and contractor employees with specialized PM and CM expertise, DOE EM could develop teams of experienced personnel that have the capability to meet short-term PM and CM surge requirements across the DOE EM Complex.

Implementation steps for the development of PM and CM Reinforcement Teams include:

- Identify skill sets required.
- Identify sources for skilled PM and CM resources available for Reinforcement Teams.
- Establish a Strategy for providing Reinforcement Teams as they are required across the Complex.

By establishing versatile teams of PM and CM support resources, DOE EM will be more capable of addressing critical resource needs in a timely manner. Having these resources available before the situation arise, enables DOE EM Management to focus on the issue(s) and frees them from repeatedly having to address contractual or logistical constraints.

RPA 7 – Complete DOE EM Project Management Guidance

DOE EM needs to create and complete DOE EM-specific Project Management guidance. Overall DOE EM Project Management guidance (e.g., DOE Order 413.3A and associated guidance) has been created primarily with large capital projects in mind, with large structures and complicated processes as the end point of the project. This guidance does not uniformly address the needs of environmental cleanup projects.

DOE Order 413.3A requirements call for actions that are unnecessary or specify methodologies, that while necessary, are expensive and awkward to implement for cleanup projects. Existing efforts, such as the development of the proposed DOE G 413.3-8 (Project Management Guide), are a good start towards providing the managers of environmental remediation projects with a map towards the goal of meeting the intent of DOE orders, but reducing the burden of unrelated steps specified in the Orders. The proposed Project Management Guide supplements DOE Order 413.3A by providing consistent guidance for DOE EM Cleanup Projects, which include programs, project Baseline summaries, traditional projects and non-traditional projects. Implementation steps include:

- Finalize DOE G 413.3-8. The Guide should define the types of projects and differences between them with regard to the Critical Decision (CD) process. It should provide perspective on the way in which specific Project Management deliverables and the CD process may vary.
- Address attributes of DOE EM projects that are unique when compared to traditional construction projects.

- Review other DOE guidance that is not enhanced by the DOE G 413.3-8 document, and consider additional DOE-EM guides for easier and more effective implementation of that guidance.
- Consider a more structured approach to modifying guidance that eliminates conflicting modifications from different command levels and individuals within DOE EM.
- Consider publishing manuals to accompany the DOE EM guides that illustrate examples of "Best-in-Class" products from Sites in areas such as Integrated Schedule, Risk Management Planning, IPT organization and Scope of Work composition.

In issuing this guidance, it would be beneficial of DOE EM to offer workshops that would demonstrate the scope and effect of changes made by the new guides. This would allow all Sites to operate with the same set of assumptions and interpretations.

RPA 8 – Clarify Roles and Responsibilities between Project Management and Contract Management Organizations

The Phase II Assessment confirmed that deficiencies in the coordination and resolution of project changes with contract changes continue to negatively impact DOE EM's project performance. The Contract Management Assessment identified several weaknesses that impact both PM and CM organizations. These weaknesses included a lack of independent government estimates, outstanding REAs or unresolved Baseline Changes, a lack of integration of government furnished materials into project schedules, a lack of adequate oversight of Government property, and inadequate requirement definition processes.

The relationship between Project Management and Contract Management is a fundamental pillar of successful project execution. These organizations must communicate continually throughout the project lifecycle and work together to communicate and address situations that will impact each other.

This priority action focuses on defining the individual and interrelated processes for these organizations, then facilitating changes in site and DOE EM Headquarters business practices to meet the objectives of both groups. Steps to clarify the roles and responsibilities of Project Management and Contract Management organizations include:

- Develop a Process Model for Project and Contract "Change Control" process for Field implementation.
- Assess current Field practices/procedures for integrating Project and Contract changes.
- Identify gaps in understanding of contract requirements by Federal Project Directors and Project Management requirements by Procurement Personnel.
- Perform a Root Cause Analysis to determine why the problems exist.
- Identify Best Practices used by other Federal agencies.

- Revise the DOE EM Process Model for Project/Contract Change Control based on the results of these analyses.
- Put the Process Model into practice across the DOE EM Complex.
- Formalize protocols for interactions between PM and CM entities.

By strengthening the relationship between the Project Management and Contract Management Organizations, DOE EM will be better able to manage project scope, cost and schedule more effectively. By developing a process model for change control and publishing procedures, PM and CM resources will be using the same "playbook" to make decisions and advance projects.

3.2 Mid-Term Recommended Priority Actions

RPA 9 – Update and Implement Human Capital Plans

The Human Capital Plan is the basis for determining the number of resources, types of required skills and many other Human Capital related demands. Human Capital development is a long term initiative and will require significant time to achieve. For example, proactive communication of requisite skills and the required number of resources for each Site are essential elements of the Plan. Required implementation steps for this action include:

- Review and analyze the current Human Capital Plans for DOE EM Sites, DOE CBC and DOE Headquarters.
- Determine the total Human Capital needs of PM and CM personnel to achieve BICPM.
- Adjust the Plan to reflect current PM and CM personnel needs.
- Begin the hiring process to meet the ultimate requirement identified in the BICPM Human Capital Plan.
- Measure hiring results against the Human Capital Plan.

Active and continuous monitoring of hiring processes and professional development activities against the Human Capital Plan will ensure that DOE EM can achieve BICPM personnel requirements.

RPA 10 – Establish a Standardized and Integrated Change Control Process

DOE EM is challenged by not having an integrated, rigorous Project Management and Contract Management Change Control Process. In particular, the Project Management and Contract Administration processes are currently managed separately and are, at times, independent of one another. Without understanding the daily tangible interrelationship, DOE EM Federal Project Directors, Contracting Officers and Contracting Officer Representatives do not understand each others roles, responsibilities and accountabilities throughout the Project Lifecycle. Consequently, Contracts and Baselines are misaligned, collaboration and teamwork is prevented, which results in increased Project costs and schedules.

Steps to implementing an effective standardized Change Control Process which is properly integrated with key PM and CM components and complies with DOE Order 413.3A include:

- Conduct a facilitated workshop on Change Control
  - Ensure the right people attend
  - Use process mapping and flowcharting to easily "see and follow"
  - Analyze the current Change Control Process state
  - Compare the current state with written policy and procedures
- Create a future state process map.
- Perform a root cause analysis of contract changes at DOE EM Headquarters.
- Assess Field practices for contract changes.
- Identify best practices of other Federal agencies and identify CM skill gaps among FPDs.
- Utilize the current process state map with the future state map and root cause analysis to identify improvements to CM integration through the project change control process. Formalize CM involvement with project recovery actions.
- Establish standard procedures for document content. Include high-level process maps within these documents so Federal Project Directors, Contracting Officers and Contracting Officer Representatives "see" the process and PM/CM interrelationships.
- Reward project teams that noticeably collaborate and integrate PM/CM activities. Likewise, discourage teams for unsupportive functional behavior which is likely to spill from personnel not wanting to have their individual activities and associated schedules negatively impacted by considering the "greater good" of the mission.
- Improve discipline and structure for approving and controlling program and Baseline changes to projects.

During performance of this enabling role by DOE EM Headquarters, confusion will be replaced by collaborative teamwork. The clarity of communicating contract processes and project requirements will align contracts and project baselines.

RPA 11 – Establish Standards for DOE EM Management Products and Practices

An opportunity exists to maximize the efforts of the individual DOE EM Site staffs by creating standards for DOE EM management products and practices. Without established standards for reporting, review and monitoring, Sites can produce products that differ from the outcome desired by DOE EM Headquarters. This can range from misinterpreted Quarterly Project Review (QPR) data to repetitive findings from one External Independent Review (EIR) to the next.

This often involves Sites making an effort along one set of assumptions, and then having to re-create that work when informed of the need to conform to a different set of assumptions. Established standards would be most useful in:

- Establishing evaluation standards for EIR, Independent Project Review (IPR) and other DOE EM review events.
- Creating frameworks and progress instructions for work on integral site management tools such as Risk Management Plans, Project Execution Plans and Tailoring Strategies, among others.
- Laying out a step-by-step methodology for the creation and start-up of new projects, reducing the need for ad hoc decision making by newly assembled project staffs, including requirements for such initial products as Mission Need Statements, Work Planning Strategies, Site Characterization requirements for projects and initial Tailoring Strategies.
- Producing a clear step-by-step approach to the assembly of QPR and other periodic reports to form consistent products, and to allow Sites to more quickly assemble the desired reporting product for DOE EM.

RPA 12 – Implement Enterprise Project Management Software Solutions

At present, a wide range of Project Management software tools are being used by the Sites. Completing the analysis, design, development and implementation of a comprehensive project portfolio management system would enhance BICPM Implementation. Such a system would include specific sub-systems that contribute to Project Management and Contract Management. These sub-systems would include, but are not limited to, portfolio management, cost estimating, scheduling, risk and contract management. These sub-systems depend on information from one another to properly Baseline and manage a project.

Time and cost resources from DOE EM are at a premium and need to be expended on project planning and execution. Simple and effective systems need to be put in place to focus reporting cycles on making management decisions using project information, not trying to obtain, disseminate and report project data. Standard off-the-shelf software generally has a large user community that could be recruited to address resource shortages. Required implementation steps for this action include:

- Evaluate and select a software standard for project portfolio management.
- Standardize DOE EM scheduling software to Primavera®.
- Standardize DOE EM cost estimating software to a database driven product such as MII.
- Standardize DOE EM risk management software to Pertmaster.
- Determine and document information management requirements.
- Design and implement data warehouses that meet the requirements.
- Leverage commercial off-the-shelf software that reduces custom development efforts.

- Design and implement data flows among sub-systems. One size doesn't fit all needs.
- Ensure that the systems have interoperability. Everything and everyone needs to work together.

Standard Project Management software tools are a pre-requisite for DOE EM to attain BICPM status. This action will provide a common platform and language for developing and communicating project management information and provide a consistent, repetitive and successful process for project execution.

RPA 13 – Streamline Critical Decision Document Review and Concurrence

The Phase II Assessment noted work flow inefficiencies and obstacles to the review and approval process of Critical Decision (CD) documents at DOE EM Headquarters. CD documents submitted by the Sites are often incomplete, late or require revision. Consequently, DOE EM Headquarters personnel spend considerable time working with the Sites, revising CD documents and routing them through DOE EM Headquarters for concurrence. Currently, this process is slow and inefficient.

Streamlining the CD package review and concurrence process requires several major initiatives including 1) working with the Sites to ensure that requirements for CD documents are understood, 2) establish and communicating standards regarding CD document content and format to the Sites, and 3) substantially modifying current DOE EM Headquarters concurrence procedures.

Standardization of CD documents is paramount to the streamlining process and includes the following implementation steps:

- Analyze and modify the current DOE EM Headquarters' review and concurrence procedures for CD document approvals. The most important procedure that requires modification is the current approval process which requires sign off by all Deputy Assistant Secretaries (DASs) before CD documents can be finalized.
- Establish standard content and format for Project Execution Plans (PEPs), Acquisition Strategies, Integrated Project Team Charters and Federal Risk Management Plans. Communicate these standards to the Sites on a timely and regular basis.
- Perform Quality Control and provide comments on Site-generated CD documents rather than editing and rewriting of CD documents.
- Assist the Sites with CD document planning by developing templates for CD documents.
- Establish clear criteria for determining the applicability of CD document requirements for each PPS and methods for tailoring of those requirements when it is applicable.
- Establish clear and active roles of all reviewing parties including prioritizing and vetting DAS's comments.

- Establish concise process timeframes and consequences for missed suspense dates.

The streamlined CD document process will enable planning for CD package arrival, ensure the CD package moves through the DOE EM Headquarters approval process and ensure that CD document approvals are achieved within established deadlines. The completion of these steps will significantly facilitate a consistent, repetitive and successful CD document approval process for DOE EM projects.

RPA 14 – Complete and Utilize Federal Risk Management Plans

DOE Order 413.3A and DOE Manual 413.3-1 establish requirements for development and maintenance of Federal Risk Management Plans at all Sites. A Federal Risk Management Plan identifies the project and programmatic risks for the near-term and OPER components of all DOE EM projects. The plan also establishes estimates for DOE EM Unfunded Contingency to address those risks that are exclusively under the control and responsibility of DOE EM.

DOE EM Unfunded Contingency is determined by DOE EM management through a quantitative risk analysis. The DOE EM Unfunded Contingency has two components: cost risks associated with identified programmatic risks and schedule risks associated with accommodating these risks in the project schedule.

Implementation steps for development of a Federal Risk Management Plan include:

- Document the goals and objectives of the Risk Management process, the overall Risk Management strategy and the methodology that will be used to identify and assess risks.
- Document risk events using “risk and opportunity” forms that quantify both the cost and schedule impacts as well as probability of occurrence for each risk event.
- Ensure estimates for cost and schedule impacts are documented and have a rational basis of estimate.
- Document risk handling strategies for each active risk and ensure risks are tied to applicable Work Breakdown Structure elements.
- Ensure risk mitigation costs are included in the Performance Measurement Baseline.
- Document personnel assignments and organizational responsibilities in the Plan.
- Document procedures for identifying and incorporating new risks into the Risk Management Process as well as risk tracking and closeout procedures.
- Document interfaces with other projects, facilities, organizations within the Plan.
- Ensure Integrated Project Team ownership and involvement are evident; and the Plan, risks and handling strategies are re-evaluated periodically.
- Review and update Risk Registers monthly.
- Dedicate an individual to serve as a Risk Manager for every Risk Management Plan.

Utilizing thoroughly developed Federal Risk Management Plans raises DOE EM Headquarters and Congressional confidence by demonstrating consistent and forward looking methods of planning. Following this process, the estimates for Unfunded Contingency will provide the DOE EM Headquarters better input and documentation for the determination of DOE EM environmental liabilities.

3.3 Long Term Recommended Priority Actions

RPA 15 – Maintain Validated Federal Five-Year Baselines and Out-Year Planning Estimate Ranges

By the end of February 2008, Project Baselines and Certified Out-Year Planning Estimate Ranges (OPERs) for all of DOE EM's Project Baseline Summaries (PBSs) will have been validated by an independent third party. This accomplishment is the result of extraordinary efforts on the part of DOE EM and contractor personnel across the Complex during the past 18 months. It will be important to build on the momentum gained by these efforts to maintain these Baselines in response to directed changes in scope, cost and schedule that results from interactions with regulators, discoveries of additional areas of contamination, shifts in Congressional funding levels and changes in prioritization.

Maintaining project Baselines ensures that the front-end planning efforts are not lost or do not become obsolete due to large time gaps between revisions. Implementation steps to maintain the Federal Baselines should include:

- Keep the project mission and the supporting project work scope synchronized.
- Updating OPER Baseline estimates as their scope matures and the scope moves into the Five-Year Baseline window. Estimates that meet the "reasonableness" standard of the OPER Baseline will need to be re-evaluated to ensure they include up-to-date estimates of resources required, desired and required end states, and have valid assumptions.
- Review the preferred method of accomplishments used in the assumptions for the Baselines. With the passage of time, selected technologies and techniques may become obsolete, or be proved more or less effective than was originally assumed.
- Reconsideration of scheduled events. Coordination with other DOE EM Sites, changes to regulatory agreements and reprioritization of DOE EM efforts may require work tasks (and associated costs and resource needs) to be rearranged.
- Ensure that potential risk events are also reviewed periodically, and the associated probabilities and consequences have been incorporated into the maintained Baseline elements.

Maintaining all current DOE EM Federal Baseline data will provide valuable information to all levels of DOE EM Management, including DOE EM Headquarters, Federal Project Directors, Project Managers, Contract Managers and Finance personnel.

RPA 16 – Implement Surveillances of Contractor Earned Value Management Systems

The 32 guidelines laid out in the ANSI/EIA-748-A, *Standard for Earned Value Management Systems,* allow for in-depth oversight of a contractor's EVMS. Surveillance Plans should be developed in accordance with these guidelines. The methodology to implement an EVMS Surveillance Plan includes the following steps:

- Developing a Surveillance Plan using the ANSI/EIA guidelines.
- Revising the Surveillance Plan to incorporate "lessons learned" from the initial implementation.
- Creating a reviewer's checklist designed to ensure the subject project elements comply with the ANSI/EIA Guidelines of the EVMS standard.
- Conducting monthly reviews both by interviewing cost account managers and by personally verifying the integrity of project information.
- Verifying project information through review of project documents listed on a pre-planned document list.
- Collecting and tracking EVMS surveillance and trend analysis results.
- Reviewing Contract Performance Reports, Risk Plans, Baseline Change Proposal Logs, Variance Reports and Corrective Action Plans.
- Perform a monthly sampling of the 32 guidelines established by ANSI/EIA 748-A.

Monthly EVMS surveillance ensures the contractor is utilizing the certified EVMS or that the EVMS in use is capable of being certified. Full implementation of this Recommended Priority Action will allow DOE EM to better oversee baseline management, contract management challenges and project controls challenges.

RPA 17 – Identify Site-Specific Best Practices and Adopt Across the Complex

Best Practices is a management tool which asserts that there is a method, process or activity that is more effective at delivering a particular outcome than any other method. Best practices can also be defined as the most efficient (least amount of effort) and effective (best results) way of accomplishing a task, based on repeatable procedures that have proven themselves over time.

Despite the need to improve on processes as times change and things evolve, Best Practices is considered by some to describe the process of developing and following a standard way of doing things that multiple organizations can use for management and policy. The notion of 'best practices' does not commit people or companies to one inflexible, unchanging practice. Instead, Best Practices is a philosophical approach based around continuous learning and improvement.

Examples of Best Practices noted at various Sites during the Phase II Assessments include:

- *Cost Estimating / Federal Baseline Development – Richland*: The Site has a robust cost estimating staff that have developed and assumed the responsibility for maintenance of the OPER Baseline since 2005. This is the best example of Federal ownership of the lifecycle baseline in the DOE EM Complex. The Basis of Estimate documentation and cost estimates developed and maintained by RL have received accolades from EIR Teams.
- *Project Management Tools – Nevada Site Office*: The Site has developed database applications to assist with Project Management.
- *Professional Development – Richland*: The Site has created a certification and development program for Project Controls Officers.
- *Process Management – Richland:* RL has implemented a RL Acquisition Advisory Board (RLAAB) to review DOE Order 413.3A documents and has streamlined PM with information systems, such as the Richland Integrated Management System and the RL Risk Manager Web Application. It has also integrated the contractors' schedules with the RL LCB schedule.
- *Basis of Estimate Documentation – Portsmouth Paducah Project Office* – The Site Work Breakdown Structure and basis of estimate documentation have been rigorously documented down to the cost account level.
- *Project Management Framework – Oak Ridge Operations* – The Site has developed a roadmap and framework to guide projects through the Critical Decision document development and approval process.
- *Integrated Federal Baseline - West Valley:* The Site is in the process of developing an integrated Federal Baseline which includes the recently awarded contract for near-term work and the OPER.

Implementing steps for adopting Best Practices as a management tool include:

- Adopting Best Practices and benchmarking starts with an organizational willingness to learn. A vibrant sense of curiosity and a deep respect and desire for learning are the keys to success.
- Learning and transfer is an interactive, ongoing and dynamic process that cannot rest on a static body of knowledge. Employees are inventing, improvising and learning something new every day and mechanisms need to be put in place for sharing that knowledge.
- Management should espouse the transfer and sharing of knowledge regarding core Project Management techniques.
- Best Practices should be communicated to the rest of the DOE EM Complex through a variety of means such as Web-based communication platforms, newsletters, etc.
- DOE EM Project Management conferences should be held on an annual basis to network and communicate Best Practices in the areas of D&D, soil and groundwater remediation, Project Management and Contract Management.

These Best Practices, if implemented Complex-wide, will help other Sites address key Project Management and Contract Management challenges and increase standardization of practices across the Complex.

RPA 18 – Prioritize Training and Professional Development

The shortage of qualified Federal staff is likely to remain a challenge for some time since "growing" experts in these professional areas requires decades of training and experience. Project skill gaps in fields such as cost estimation, project scheduling, and risk analysis will be bridged by The "Best-in-Class" Initiative, if conducted as planned and implemented fully. Prioritizing training and professional development will help raise the caliber of EM's Project Management and Contract Management staff and the overall effectiveness of its ongoing management activities. Steps to implementing an effective prioritization of training and professional development include:

- Supplement the issuance of new guidance documents with concurrent and interactive (onsite or teleconference) training Complex-wide.
- Deliver MII Cost Estimating, Scheduling, EVMS and Risk Management training to the Sites.
- Provide on-the-job / hands-on training alongside teams of Federal and support contractor with expertise in areas such as EVMS, Scheduling, MII Cost Estimating and Risk Management.
- Create an annual training schedule that encourages advance planning for participation.
- Mandate attendance for approved participants at training sessions.
- Track and reward those who sign-up and attend, determine root causes for non-attendance and penalize repeat non-participants.
- Confirm that new skills are quickly applied on the job.
- Consider using the training model from Richland's Project Controls Officer training course to implement a Complex-wide course.
- Expand existing training in acquisitions and contract management to include elements such as Cost Plus Incentive Fee contract administration (for both procurement and technical staff), cost and pricing, cost reimbursement contracting, and the technical, legal and safety aspects of EM's work.

As the number of Federal staff increases and they gain experience, dependence on contractor input will be reduced. Prioritizing training is another way DOE EM Headquarters can lead an effective enabling role in support of the overall mission.

4.0 Summary

DOE EM's current leadership has committed itself to transforming Project Management and Contract Management at DOE EM sites, at EM CBC, and at DOE EM Headquarters. To this end, they have developed a vision and strategy for building a "Best-in-Class" Project and Contract Management organization.

The successful completion of the CIP will result in increased federal ownership of EM projects, standardization of DOE EM processes, clear communication of requirements and policy to DOE EM personnel, timely and effective change control for both Project Management and Contract Management, and the identification and socialization of best practices across the Complex.

The RPAs provide a clear and concise path forward that can be communicated to the entire DOE EM organization and provide the foundation upon which a BICPM culture can be built. Tools are provided in Appendix F that assist in communicating the work required to complete the project successfully, these tools include:

- A work breakdown structure (WBS) organizing and defining the scope of the project.
- An organizational breakdown structure (OBS) depicting the project organization arranged so as to relate the work packages to the project performers.
- A responsibility assignment matrix relating the OBS to the WBS to help ensure that each component of scope is assigned to a responsible person.
- A schedule identifying the planned timeframes for performing the Recommended Priority Actions.

For each RPA, a set of implementing steps and a summary of expected benefits were discussed in Section 3. To measure progress against these RPAs, a set of potential Performance Measures has been developed and are listed in Table 5.

Table 5. Potential BICPM Performance Measures

RPA ID	RPA Title	Potential Measure(s)
1	Assign Leadership for BICPM Implementation	• Overall BICPM Leader Assigned. • Number of RPAs with assigned leads. • Number of site BICPM Technical Monitors assigned.
2	Provide Additional Project Management Resources	• Number of qualified PM resources hired.
3	Provide Additional Contract Management Resources	• Number of qualified CM resources hired.

RPA ID	RPA Title	Potential Measure(s)
4	Address Unresolved Baseline Change Proposals and Requests for Equitable Adjustment	• Number of outstanding BCPs resolved at the appropriate change control threshold. • Number of outstanding REAs resolved and integrated into the Prime Contract.
5	Develop and Improve Federal Work Plans at Each Site	• Number of sites with Federal Work Plans. • Number of sites with up-to-date Federal Work Plans.
6	Provide Project Management and Contract Management Capability Reinforcements	• Number of resources assigned to Capability Reinforcement teams. • Average response time for Capability Reinforcement requests.
7	Complete DOE EM Project Management Guidance	• Number of DOE guidance documents developed.
8	Clarify Roles and Responsibilities between Project Management and Contract Management Organizations	• Number of formalized protocols developed for PM and CM responsibilities and interactions.
9	Update and Implement Human Capital Plans	• Number of Human Capital Plans updated.
10	Establish a Standardized and Integrated Change Control Process	• Number of Standardized and integrated change control processes developed. • Number of sites actively using Standardized and Integrated CCP.
11	Establish Standards for DOE EM Management Products and Practices	• Number of new standards developed. • Number of existing standards revised.
12	Implement Enterprise Project Management Software Solutions	• Number of Enterprise Software Solutions Implemented. • Number of sites utilizing standardized PM Enterprise Software Solutions.

RPA ID	RPA Title	Potential Measure(s)
13	Streamline Critical Decision Document Review and Concurrence	• Number of CD review processes revised. • Decreased cycle-time of CD Review and Concurrence.
14	Complete and Utilize Federal Risk Management Plans	• Number of PBSs with Risk Management plans developed.
15	Maintain Validated Federal Five-Year Baselines and Out-Year Planning Estimate Ranges	• Percentage of PBS baselines and OPERs that retain validated/certified status.
16	Implement Surveillances of Contractor Earned Value Management Systems	• Number of sites that conduct periodic Contractor EVMS surveillances.
17	Identify Site-Specific Best Practices and Adopt across the Complex	• Number of best practices identified. • Number of best practices adopted.
18	Prioritize Training and Professional Development	• Number of new training courses developed. • Number of trainees passed through each program.

Appendix G recognizes the DOE sites where work performed resulted in the contractors receiving the Project Management Institute's 2006 and 2007 Project of the Year Awards. By accomplishing the RPAs identified and described in this Plan, DOE EM will move toward institutionalizing "Best-in-Class" Project and Contract Management.